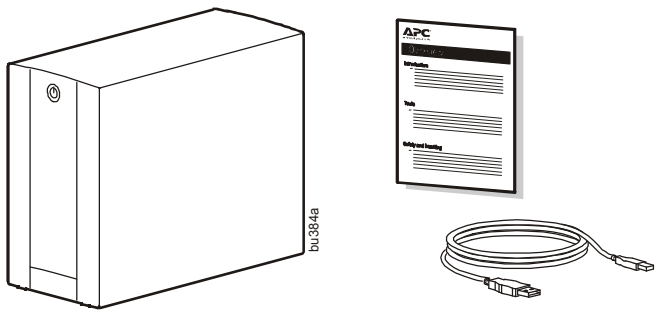
Back-UPS™ BX650U-LM
User Guide

by Schneider Electric

1 Inventory



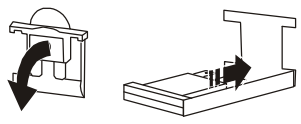
2 Safety and General Information

Inspect the package contents upon receipt. Notify the carrier and dealer if there is any damage.

Read the Safety Guide supplied with this unit before installing the UPS.

- This UPS is intended for indoor use only.
- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.
- The battery typically lasts for three to five years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality AC power, and frequent short duration discharges will shorten battery life.
- Connect the UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.

3 Connect the Battery



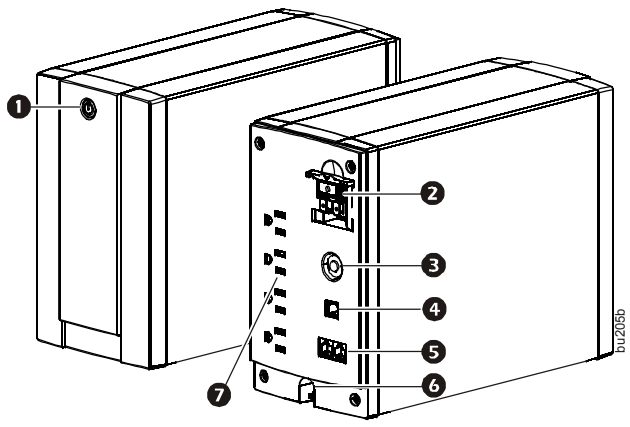
1. Connect the battery by pulling the battery connector handle down, and then pushing it into the unit.
2. Connect the Back-UPS BX650U-LM power cable directly to a wall outlet. Do not use surge protectors or extension cords.
3. Press the ON/OFF button to turn on the unit.

   The green "Power On" indicator confirms that the Back-UPS is on and ready to provide protection.

   The Back-UPS should charge for at least 10 hours to ensure sufficient runtime. The unit is being charged whenever it is connected to AC power, whether the unit is turned ON or OFF.

4 Installation

1. On/Off button
2. Battery connector
3. Circuit breaker
4. USB port
5. Telephone/Network port
6. AC Power Cable
7. Battery Backup + Surge Protection outlets



PowerChute™ Personal Edition Software

PowerChute Personal Edition Software allows you to use your computer to access additional power protection and management features of the Back-UPS.

Installation

Connect the Back-UPS to a computer using a USB cable. Plug one end into the USB Port on the rear panel of the Back-UPS and the other into a USB port on your computer.

To download the software and for detailed operation, go to www.apc.com

5 Status Indicators

LED	Audible Alarm	Condition
On	Off	**On-line** - The Back-UPS is supplying utility power to the connected equipment
	Constant Tone	**On Line Overload** - The power being used by the connected equipment has exceeded the capacity of the unit. Disconnect some equipment
	Constant beeping	**Over-temperature Warning -** The unit is overheating and will shut down if the temperature is not lowered. Disconnect some of the connected equipment.
On (Off during 4 beeps)	4 beeps repeated every 30 seconds	**On-Battery** - The Back-UPS is supplying battery power
Flashing	Rapid Beeping (every 1/2 second)	**Low Battery Warning** - The Back-UPS has 2 minutes of runtime remaining
	Constant tone	**Bad Battery Detected** - The battery needs to be charged, or is at end of life. (See *Battery Replacement.)*
	Chirp every 2 seconds	**Charger Warning** - The Back-UPS has experienced an internal problem, but is still providing power to the connected equipment. Contact Schneider Electric IT (SEIT) Technical Support
Off	Short beep every 4 seconds	**Low Battery Shutdown** - During On Battery operation the battery power was almost completely exhausted, and the Back-UPS is waiting for utility power to return to normal
	Constant Tone	**On Battery Overload** - The connected equipment requires more power than provided by the Back-UPS battery. Unplug devices one at a time to remove overload. If the problem is not corrected, contact SEIT Technical Support
	Constant Tone	**Charger Fault** - Back-UPS has an internal problem, and is no longer powering the load. Contact SEIT Technical Support
	Constant Tone	**Temperature Fault -** The Back-UPS has overheated and has shut down.

Battery Replacement

The battery in the Back-UPS BX650U-LM is not user-replaceable. Contact SEIT Technical Support for a list of authorized service centers near you.

6 Transfer Voltage and Sensitivity Settings

Automatic Voltage Regulation boosts the AC voltage when it drops below safe levels. This allows the equipment that is connected to the Back-UPS to operate during low voltage conditions. Automatic Voltage Regulation will also regulate high voltage conditions down to a safe level.

The Back-UPS will switch to battery power if the AC input voltage level becomes too low or too high for the Automatic Voltage Regulation feature to compensate, or if the AC power is experiencing voltage fluctuations.

No-load Shutdown

The UPS will shut down to conserve energy if while operating on battery power the UPS detects that connected equipment is using less than 15 W of energy for more than 15 minutes.

No-load shutdown can be enabled or disabled through **Program** mode described below.

If the Back-UPS switches to battery power too frequently or too infrequently, adjust the transfer voltage and sensitivity settings:

1. Verify that the Back-UPS battery is connected. Connect the Back-UPS to a wall outlet. The Back-UPS should be turned off.
2. Press and hold the **POWER ON/OFF** button until the LED flashes rapidly. Release the button. The Back-UPS is now in **Program** mode.
3. Immediately press the **POWER ON/OFF** button to change the current setting. Press and release the **POWER ON/OFF** button to scroll through available settings. The LED will flash once, twice or three times and emit audible beeps to indicate the voltage sensitivity level. Refer to the table for an explanation of the transfer voltage sensitivity levels.
4. To exit **Program** mode wait five seconds and the LED will extinguish. **Program** mode is no longer active.

LED Flashing	Audible Indicator	Transfer Voltage Setting	Input Voltage Range	No-load Shutdown	Description
Once per second	None	Low	78-150	Disabled	The Back-UPS will switch to battery power less often. Use this setting for equipment that is not sensitive to low or high level voltage levels or minor voltage waveform distortions.
Once per second	4 beeps per second	Low	78-150	Enabled	The Back-UPS will switch to battery power less often. Use this setting for equipment that is not sensitive to low or high level voltage levels or minor voltage waveform distortions.
Twice per second	None	Medium	81-147	Disabled	Use when the input utility power is normal, without any fluctuation in voltage levels.
Twice per second	4 beeps per second	Medium (factory default)	81-147	Enabled	Use when the input utility power is normal, without any fluctuation in voltage levels.
Three times per second	None	High	81-144	Disabled	The Back-UPS will switch to battery power during any small fluctuation in voltage. Use this setting for equipment that is sensitive to low or high level voltage levels or minor voltage waveform distortions.
Three times per second	4 beeps per second	High	81-144	Enabled	The Back-UPS will switch to battery power during any small fluctuation in voltage. Use this setting for equipment that is sensitive to low or high level voltage levels or minor voltage waveform distortions.

7 Specifications

Input	Voltage	120 Vac, nominal
	Frequency	50/60 Hz ± 3Hz, auto-sensing
	Brownout Transfer	78 Vac, typical
	Over-voltage Transfer	150 Vac, typical
Output	UPS Capacity (total)	650 VA / 390 W
	Voltage On Battery	120 Vac (step-approximated sinewave)
	Frequency on Battery	50/60 Hz ± 1Hz
	Transfer Time	4 ms typical
Protection and Filtering	AC Surge Protection	Full time, 343 Joules
	AC Input	Resettable circuit breaker
Battery	Type (maintenance free, lead acid)	12 V 7.2 Ahr
	Average Life	3 - 5 years depending on the number of discharge cycles and environmental temperature
	Typical Recharge Time	8 Hours
Physical	Net Weight	6.2 kg
	Dimensions (H x W x D)	20 cm x 11.5 cm x 25.7 cm
	Operating Temperature	0 °C to 40 °C (32 °F to 104 °F)
	Storage Temperature	-15 °C to 45 °C (5 °F to 113 °F)
	Operating Relative Humidity	0 to 95% non-condensing
	Operating Elevation	0 to 3000 m (0 to 10,000 ft)
EMC Compliance	This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.	

Troubleshooting and Service

1. Consult the Troubleshooting from the APC by Schneider Electric Web site, www.apc.com.
2. If the problem persists, contact Schneider Electric IT (SEIT) Customer Support through the Schneider Electric Web site, **www.apc.com**.
   a. Note the model number and serial number and the date of purchase. The model and serial numbers are located on the rear panel of the unit and are available through the LCD display on select models.
   b. Call SEIT Customer Support and a technician will attempt to solve the problem over the phone. If this is not possible, the technician will issue a Returned Material Authorization Number (RMA#).
   c. If the unit is under warranty, the repairs are free.
   d. Service procedures and returns may vary internationally. Refer to the Schneider Electric Web site for country specific instructions.
3. Prepare to troubleshoot the problem over the phone. If this is not successful, and the unit is still under warranty, the Technical Support Representative will provide all necessary information to return the unit for replacement

APC by Schneider Electric IT Customer Support Worldwide

For country specific customer support, go to the APC by Schneider Electric Web site, www.apc.com.

Register your product on-line. http://warranty.apc.com

EN 990-5265 02/2014

3-Year Warranty

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